



Feather Gripper (Mini Pivot Gripper) Double Acting/Single Acting Type

# FH500 Series

● Opening/closing angle: Opening angle 20°, Closing angle -5°



# FH500 Series

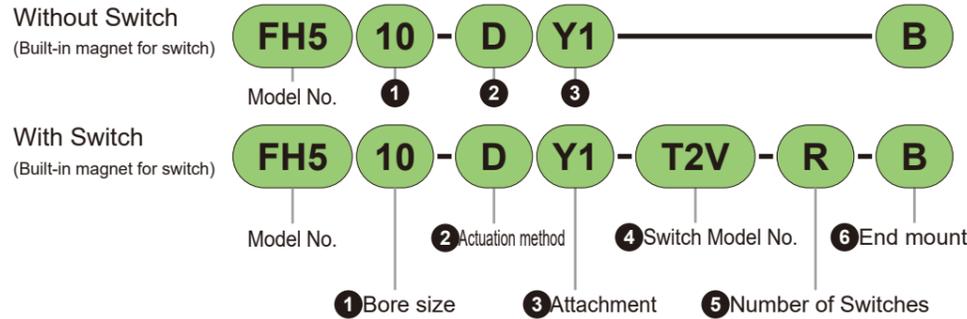
Specifications/Gripping Force Performance Data

## Specifications

Item	FH500							
	FH510-D	FH512-D	FH516-D	FH520-D	FH510-O	FH512-O	FH516-O	FH520-O
Actuation method	Double Acting				Single acting type			
Operating Fluid	Compressed Air							
Max. Working Pressure MPa	0.7							
Min. Operating Pressure MPa	0.15				0.25			
Proof Pressure MPa	1.05							
Ambient Temperature °C	5 to 60							
Port Size	M3		M5		M3		M5	
Opening/closing angle °	At open, 20°				At closed, -5°			
Weight g	43	53	92	135	43	53	92	136
Repeatability mm	±0.03							
Max. operating frequency cycles/sec	3							
Cushion	Open side rubber cushion							
Option	Solid State Switch (2-wire/3-wire) * Closed side speed controller/End mount							

\* Built-in speed controller is limited to double acting type.

## Model No. Notation Method



### 1 Bore Size (mm)

Code	Content
10	ø10
12	ø12
16	ø16
20	ø20

### 2 Actuation method

Code	Content
D	Double Acting
O	Single Acting Type (Normally Open: )
Z	Double Acting with Built-in Speed Controller

### 3 Attachment

Code	Content
Blank	Without attachments
Y1	With attachments Material (S50C)
Y2	With attachments Material (MC Nylon)

Note) For the outline dimensions and compatible models of the attachments, refer to P. 334 and 335. When ordered as an option, it will be shipped included with a quantity of 2.

### 4 Switch Model No.

For switch details, please refer to P. 573. Switches are included with the product and shipped.

Contact	Indicator LED Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1	
			AC	DC	AC	DC	Straight	L-shape
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20 *2	T2H□	T2V□
	1-Color Flex-Resistant Lead Wire	2-wire	-	10 to 30	-	5 to 20 *2	T2HR3	T2VR3
Solid State	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	T3H□	T3V□
		3-wire (PNP)	-	-	-	-	T3PH□	T3PV□

\*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.  
 \*2: The maximum load current value above, 20 mA, is at 25 °C. If the switch operating ambient temperature is higher than 25 °C, it will be lower than 20 mA. (At 60 °C, it will be 5 to 10 mA.)  
 \*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 573.

### 5 Number of Switches

Code	Content
R	With 1 pc. on Open Side
H	With 1 pc. on Close Side
D	With 2 pcs

### 6 End mount

Code	Content
Blank	Without end mount
B	With end mount

Note: For end mount (Model No. B), select the L-shaped lead wire type switch (Model No. T□V). shipped included to the product.

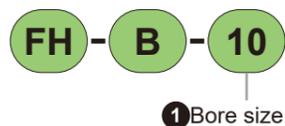
### Food Manufacturing Process Compatible Specification

(Catalog No. CC-1271AA)

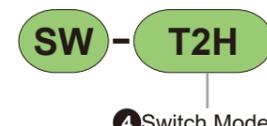
● Uses food grade grease that can be used in food manufacturing processes

**FT500- .... - FP1**

## End Mount Single Item Model No. Notation Method

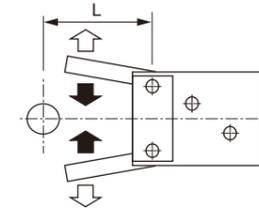


## Switch Single Unit Model No. Notation Method



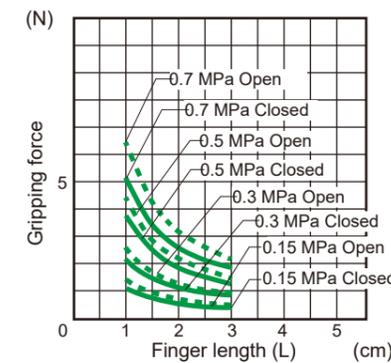
## Gripping Force Performance Data

- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- Indicates the gripping force acting in the opening and closing directions at finger length L of the gripper when the supply pressure is 0.15 to 0.7 MPa.
- Open direction (⇄) --- (broken line)
- Closing direction (⇄) — (solid line)

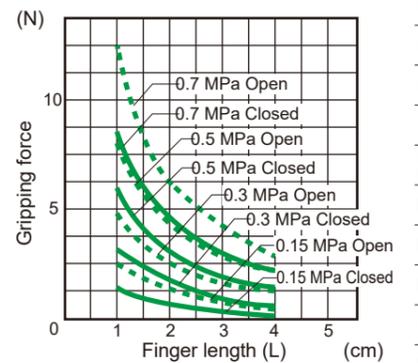


Note) The closing gripping force of the single acting type is 25 to 30 % lower than that of the double acting type. When selecting, check the design and selection precautions on P. 336.

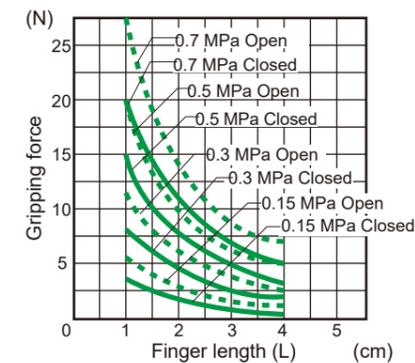
### ● FH510



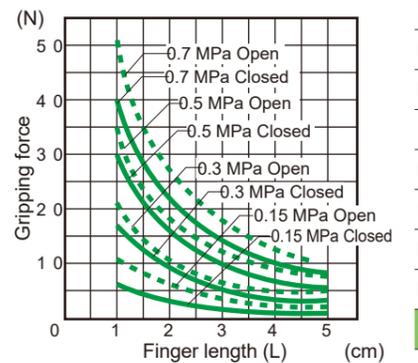
### ● FH512



### ● FH516

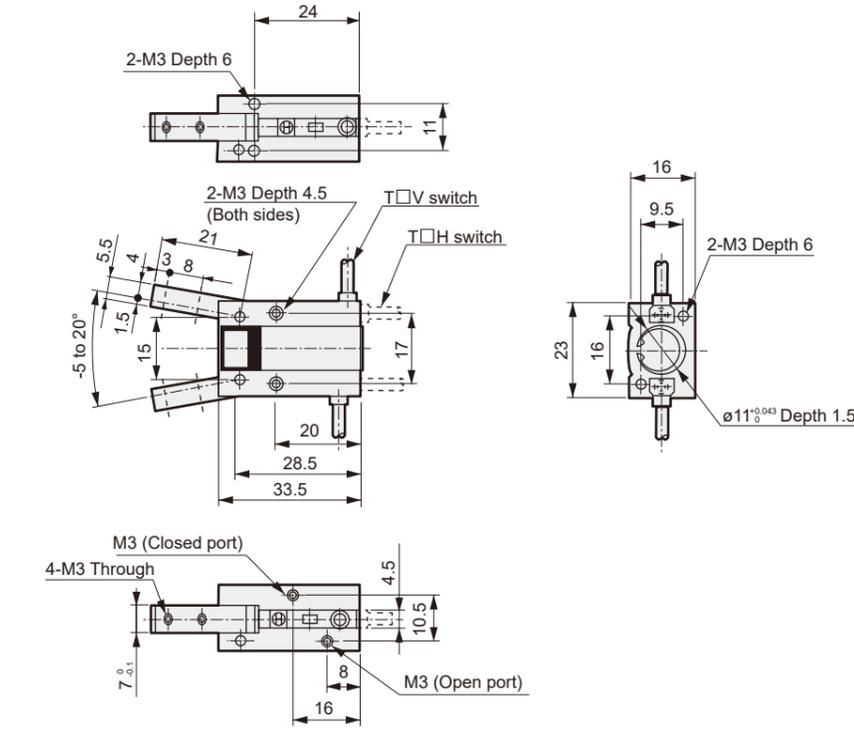


### ● FH520

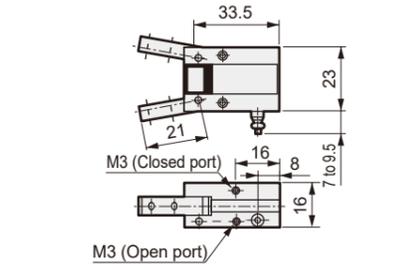


## Outline Dimension Drawing

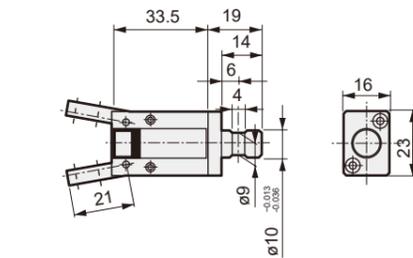
●FH510-D, FH510-O



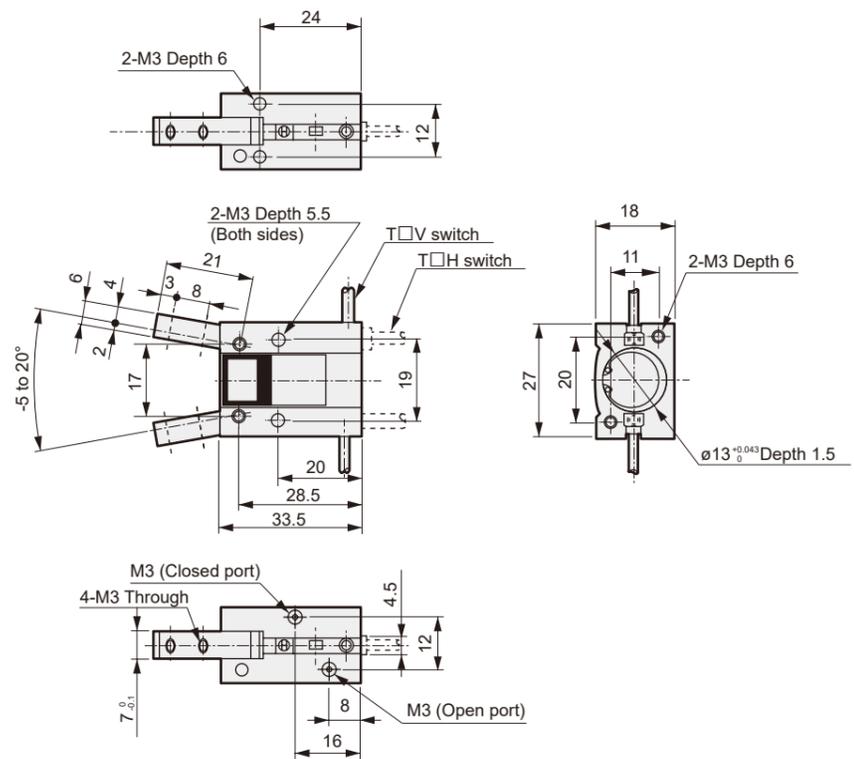
●With Speed Controller (FH510-Z)



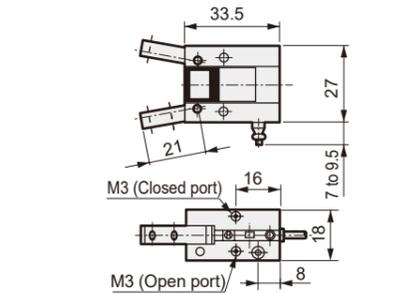
●With end mount (B)



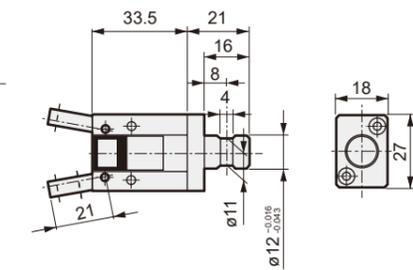
●FH512-D, FH512-O



●With Speed Controller (FH512-Z)

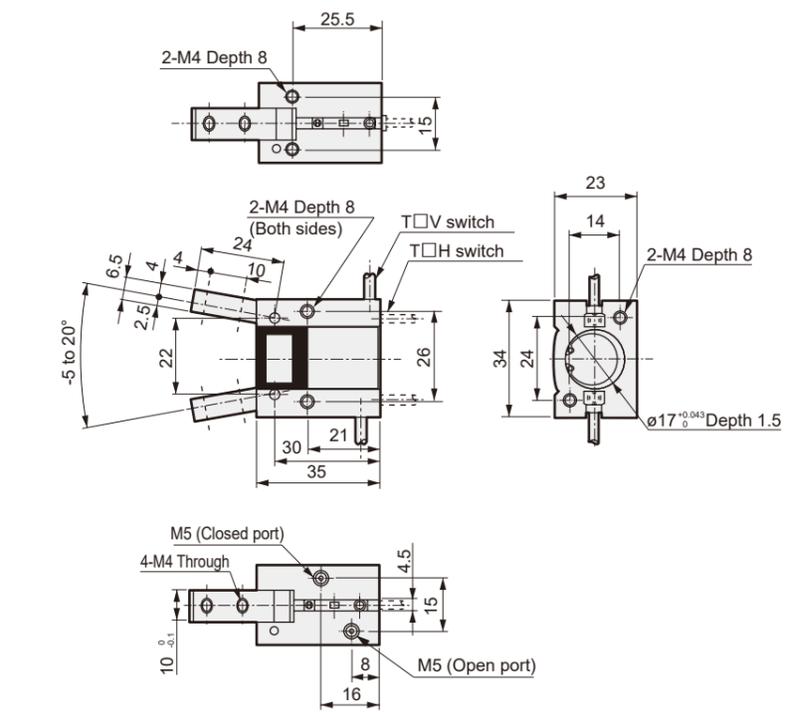


●With end mount (B)

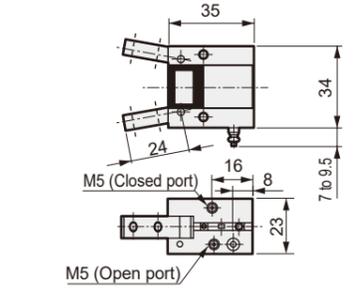


## Outline Dimension Drawing

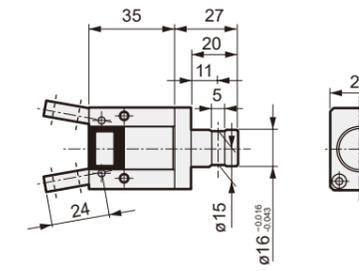
●FH516-D-FH516-O



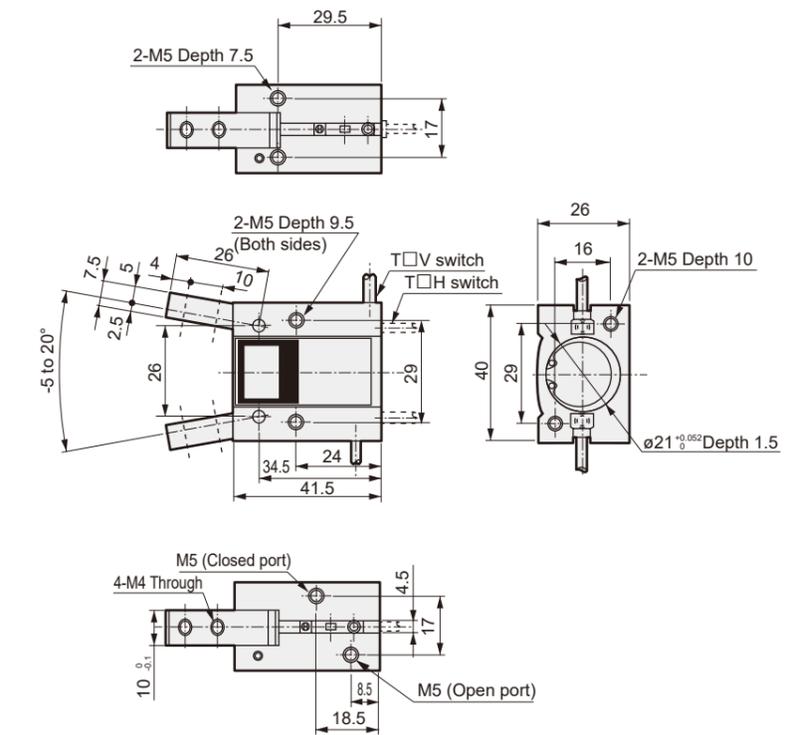
●With Speed Controller (FH516-Z)



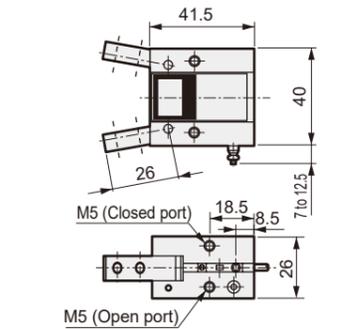
●With end mount (B)



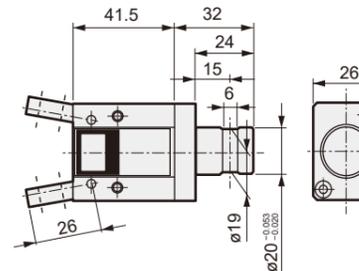
●FH520-D, FH520-O



●With Speed Controller (FH520-Z)



●With end mount (B)



## Outline Dimension Drawing

Hand (Gripper)

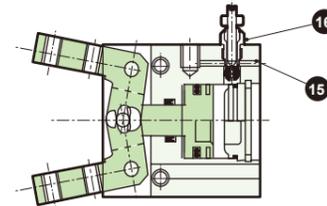
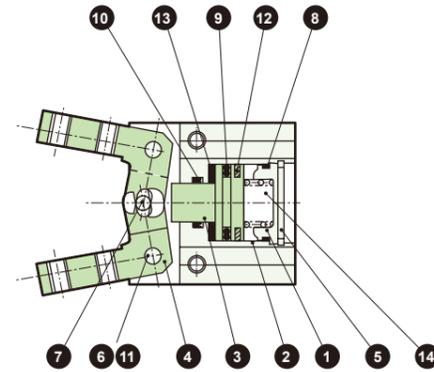
LSH-HP  
LSH  
FH100  
BSA2  
BHA  
BHG  
BHE  
LHA  
LHAG

HAP-1C  
HAP-2 to 4CS  
HKP  
HCP  
HGP  
LST-HP  
HLF2  
HLA/HLB  
HLAG/HLBG  
HLC  
HLD  
HMC-HP  
HMF  
HMF-G  
HMF-B  
HFP  
FH500  
HBL  
HJL  
HMD  
HDL  
HJD  
Cylinder Switch  
Ending

## Internal Structure Diagram/Material

● Standard (double acting), ○ (normally open) type

● With Speed Controller



**Do not disassemble**

No.	Part Name	Material	Remarks	No.	Part Name	Material	Remarks
1	Cover	Polyacetal		9	Piston Packing	Nitrile Rubber	
2	Body	Aluminum Alloy	Lubricated alumile treatment	10	Rod Packing	Nitrile Rubber	
3	Piston	Stainless Steel		11	Hexagon socket head set screw	Stainless Steel	
4	Finger	Alloy Steel	Heat treatment	12	Magnet		
5	Retaining ring	Stainless Steel		13	Cushion	Urethane Rubber	
6	Pivot Shaft	Alloy Steel	Heat treatment	14	Coil Spring	Stainless Steel	C type only
7	Operating Shaft	Alloy Steel	Heat treatment	15	Steel ball	Stainless Steel	
8	Gasket	Nitrile Rubber		16	Speed Controller		

MEMO

Hand (Gripper)

LSH-HP

LSH

FH100

BSA2

BHA

BHG

BHE

LHA

LHAG

HAP-1C

HAP-2 to 4CS

HKP

HCP

HGP

LST-HP

HLF2

HLA/HLB

HLAG/HLBG

HLC

HLD

HMC-HP

HMF

HMF-G

HMFB

HFP

**FH500**

HBL

HJL

HMD

HDL

HJD

Cylinder Switch

Ending

Hand (Gripper)

LSH-HP

LSH

FH100

BSA2

BHA

BHG

BHE

LHA

LHAG

HAP-1C

HAP-2 to 4CS

HKP

HCP

HGP

LST-HP

HLF2

HLA/HLB

HLAG/HLBG

HLC

HLD

HMC-HP

HMF

HMF-G

HMFB

HFP

**FH500**

HBL

HJL

HMD

HDL

HJD

Cylinder Switch

Ending